

## **REMARKS**

Claims 1-28 are pending and stand rejected. Claims 1, 2, 18, 23, 25, and 26 are amended. No claim is added or deleted. Claims 1-28 are pending upon entry of this amendment. Applicants thank the Examiner for examination of the claims pending in this application and address the Examiner's comments below.

### **Response to Claim Objections**

Claims 1 and 18 stand objected for informality. Claims 1 and 18 are amended herein in accordance with the Examiner's comments to correct the informalities noted by the Examiner. In particular, Applicants have amended the first determining step to include a semicolon after the phrase "the merged query result". Accordingly, withdrawal of the claim objection is respectively requested.

### **Response to Rejection Under 35 USC 102(e)**

Claims 1-2, 4-12, 15-18, and 21-26 stand rejected under 35 USC § 102(e) as allegedly being anticipated by U.S. Patent No. 7,099,860 by Liu et al. ("Liu"). This rejection is traversed in view of the above claim amendment.

Independent claim 1 as amended recites:

A computer-implemented method for ranking information, comprising:  
receiving a plurality of query results of a plurality of search queries that were submitted separately;  
merging the plurality of query results into a merged query result, the merged query result being associated with the plurality of search queries;  
determining a first ranking sequence of the merged query result;  
presenting the merged query result to a user according to the first ranking sequence;  
identifying an input signal from the user indicating an interest in a first piece of information in the merged query result;

- identifying a search query from the plurality of search queries associated with the merged query result, the identified search query being associated with a query result including the first piece of information, the query result from among the plurality of query results;
- adjusting a query factor associated with the identified search query responsive to the input signal;
- locating a second piece of information in the query result associated with the identified search query;
- determining a score for the second piece of information based at least in part on the query factor associated with the identified search query;
- determining a second ranking sequence of the merged query result based at least in part on the score; and
- presenting the merged query result to the user according to the second ranking sequence.

Support for the claim amendments can be found in paragraphs [0073-74] and Figure 3 of the Application as filed.

As amended, claim 1 discloses a method for ranking information. The method merges query results of a plurality of search queries that were submitted separately and presents the merged query result in a first ranking sequence. Upon identifying a user input indicating an interest in a first piece of information, the claimed invention identifies a search query associated with a search result including the first piece of information and adjusts a query factor for the search query. The claimed invention determines a score for a second piece of information included in the search result of the identified search query based on the adjusted query factor, and presents the merged query result in a second ranking sequence determined based on the score. This technique is useful, for example, in reranking query results based on user responses.

Liu, among other differences, does not disclose (1) “merging the plurality of query results into a merged query result, the merged query result being associated with the plurality of search queries”, (2) “presenting the merged query result to a user according to the first

ranking sequence”, and (3) “identifying a search query from the plurality of search queries associated with the merged query result, the identified search query being associated with a query result including the first piece of information, the query result from among the plurality of query results” as claimed. Liu, in contrast, discloses an image retrieval system that performs both keyword-based and content-based image retrieval. See Liu, Abstract. Unlike the claimed invention, which is directed to ranking merged query result of multiple queries, Liu merely teaches conducting image searches for a single query and ranking query result of the single query. Nowhere does Liu disclose merging query results of a plurality of search queries, presenting the merged query result, and identifying one such search query associated with a query result including a piece of information as is claimed in independent claim 1.

The Examiner cited col. 8, lines 22-23 (8:22-23), 3:32-34, 6:20-24<sup>1</sup>, and Figures 3, 6, and 7 for disclosing the above-cited limitation (1), merging results of multiple queries into a merged result. Liu at 3:32-34 discloses that the image retrieval system uses the user’s interactions with search results to refine search queries. Figure 3 and corresponding description describe a semantic network in which images and keywords are connected through keyword-image links. Weights can be assigned to the links to represent the degrees of relevance. Liu at 6:20-24 discloses that the keyword-image associations can be manually created. Liu at 8:22-23 discloses adding images with similar low-level features as images already in a search result set (i.e., images annotated with matching keywords) into the result set. The search result set is for a single query (7:64-65, drawing reference 402 of Figure 4),

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<sup>1</sup> The Examiner did not identify the column number for the cited lines 20-24. Because lines 20-24 of column 6 are related to Figure 3, the figure the Examiner cited together with lines 20-24, the Applicants assume the Examiner intended to cite col. 6, lines 20-24.

and therefore adding similar images to the search result set is not merging multiple query results of multiple search queries into a merged query result as claimed. Figure 6 and corresponding description describe an example user interface for entry of an initial query. The user can enter keywords/phrases, or alternatively select a listed category, and initiate a search for matching images in the user interface. Figure 7 and corresponding description describe an example results screen presenting a search result in response to entry of the keyword “tiger”. The user can indicate relevancy on an image-by-image basis by selecting relevance marks for individual images in the displayed result. The Liu system learns the user feedback to improve the image retrieval process for future queries. The user can also select a displayed image through the user interface and initiate a subsequent query for images with both similar semantic content and similar low-level features as the selected image. Because Liu does not teach merging the result of the subsequent query with the result of the initial query, Figure 7 and corresponding description is also unrelated to claim limitation (1).

The Examiner cited 7:19-21, drawing reference 200 in Figure 2, drawing reference 416 in Figure 4, and Figures 6 and 7 for disclosing limitation (2), presenting a merged query result of multiple search queries. Liu at 7:19-21 discloses presenting a set of highest-ranked images to the user in response to an image query. Drawing reference 200 in Figure 2 and corresponding description teach a user interface through which a user can choose to enter words or select an example image to use as an initial search query. Drawing reference 416 in Figure 4 and corresponding description teach displaying a search result set for a single image search query via a user interface. Unlike the claimed limitation, which presents a merged query result of multiple query results for multiple search queries, the search result set of Liu is a query result for a single image query. Even though the result set may include

images with similar low-level features as images annotated with searched keywords, such images are nonetheless results of the same image query and not results of distinctive search queries that were submitted separately, as recited in claim 1. Figures 6 and 7 and corresponding description as summarized above also are not related to claim limitation (2).

The Examiner cited 3:41-48, 10:32-36, 8:57, 6:8-19, drawing reference 304 in Figure 3, and Figures 6 and 7 for disclosing limitation (3). Liu at 3:41-48 discloses adjusting the semantic network of images and keywords based on the user feedback. Liu at 10:32-36 discloses establishing image-keyword links and incrementing link weight based on positive user feedback. Liu at 6:8-19 and Figure 3 disclose a structure of the semantic network. Drawing reference 304 in Figure 3 are images in the semantic network. None of these sections and figures discloses identifying a query out of multiple search queries that were submitted separately, let alone identifying a search query that is associated with a query result including a first piece of information that a user indicated an interest in.

During an Examiner Interview dated July 2, the Examiner argued that keywords described in the Liu reference are equivalent to the multiple search queries recited in claim 1. While not agreeing with the Examiner's interpretation, Applicants have amended claim 1 to explicitly recite "a plurality of search queries *that were submitted separately*" (emphasis added). The Liu reference does not teach merging query results of the separately submitted search queries and identifying one of the separately submitted search queries associated with a query result including a piece of information that a user indicated an interest in.

In view of the above, Liu fails to disclose each and every limitation recited in independent claim 1 as amended. Thus, independent claim 1 is patentably distinguishable

over the cited reference. Independent claims 18 and 25, and the dependent claims are allowable for at least the same reason.

In addition, dependent claim 7 recites the following additional limitations not taught by Liu: “identifying parts of text typed by the user, the parts including at least two of the following: nouns, verbs, and proper nouns; and generating the plurality of search queries based on the identified parts.”

The Examiner cited 5:67-6:3, 8:1-10, and drawing reference 408 of Figure 4 for teaching the additional limitations of claim 7. Liu at 5:67-6:3 teaches a natural language parser that parses text-based queries, such as keywords, phrases, and sentences. Liu at 8:1-10 lists example queries that the user may enter, and discloses a query handler parsing the entered user query to extract keywords. Unlike the claimed invention, the extracted keywords are for a single user query, and not for “generating the plurality of search queries” as claimed. Drawing reference 408 of Figure 4 and corresponding description teach that if an image has a link association with a keyword in the user query then the image is placed in a result set of the query, and is unrelated to the additional limitation of claim 7.

Thus, dependent claim 7 is patentable over Liu for at least the above additional reasons.

In addition, claims 2, 23, and 26 have been amended to recite additional limitations not disclosed in Liu. Support for the claim amendments can be found in paragraphs [0043] and [0045-46] of the Specification as filed. Thus, these claims are patentable over Liu for at least this additional reason.

Accordingly, withdrawal of the § 102 rejections is respectfully requested.

**Response to Rejection Under 35 USC 103(a) over Liu and Barrett**

Claim 3 stands rejected under 35 USC § 103(a) as allegedly being unpatentable over Liu in view of U.S. Patent Application Publication No. 2003/0135490 to Barrett et al. (“Barrett”).

As argued above with respect to claim 1, Liu fails to teach the following claim limitations recited in claim 1, (1) “merging the plurality of query results into a merged query result, the merged query result being associated with the plurality of search queries”, (2) “presenting the merged query result to a user according to the first ranking sequence”, and (3) “identifying a search query from the plurality of search queries associated with the merged query result, the identified search query being associated with a query result including the first piece of information, the query result from among the plurality of query results”.

Barrett similarly fails to disclose the claim limitations not taught by Liu. Barrett discloses a method for determining an enhanced popularity score (EPS) for a given piece of information and a given query. The EPS is determined based on user selection information about a search result of the given query, and is used to determine a score for the given piece of information. Thus, different from the claimed invention, Barrett teaches displaying a query result of only a *single* query to a user for selection, and using the user’s selection of the query result of the *single* query to determine the EPS.

In view of the above, Liu and Barrett, whether considered individually or in combination, fail to disclose each and every limitation recited in independent claims 1. Thus, independent claim 1 is patentable over Liu and Barrett. Dependent claim 3 is dependent on claim 1 and is allowable for at least the same reasons. Accordingly, withdrawal of the § 103 rejections is respectfully requested for claim 3.

**Response to Rejection Under 35 USC 103(a) over Liu and Official Notice**

Claims 13, 14, 19, 20, 27, and 28 stand rejected under 35 USC § 103(a) as allegedly being unpatentable over Liu in view of Official Notice.

Claim 13 recites the following additional limitations “increasing a refresh rate of a display of the merged query result to the user responsive to receiving input signals at an increasing frequency”. Instead of citing a reference, the Examiner rejected claim 13 in view of Official Notice by taking Official Notice that it would have been obvious that a user’s browsing behavior would determine subsequent queries for images so that refined (and thus refreshed) results would be presented in the next screen. Claims 19 and 27 recite similar limitations.

Applicants respectfully submit that the Examiner has improperly taken Official Notice in rejecting claim 13. Claim 13 recites increasing a refresh rate of a display of a same merged query result. Subsequent refined query results are different from each other, and are not merged query results. Therefore, even if increasing a refresh rate of a display of subsequent refined query results responsive to receiving input signals at an increasing frequency is obvious, a point Applicants do not concede, the Official Notice still does not disclose the claimed limitation of claim 13.



The Official Notice the Examiner took in rejecting claims 14, 20, and 28 similarly equates a refinement rate of displaying subsequent query results with the refresh rate of displaying a same merged query result, and thus is improper for at least the same reasons.

Further, Applicants respectfully submit that the Examiner has improperly taken Official Notice in rejecting the claims. MPEP 2144.03A recites that “It would *not* be appropriate for the examiner to take official notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known.” See MPEP 2144.03A (emphasis in original). Applicants respectfully submit that the above-cited claim limitations are not capable of instant and unquestionable demonstration as being well-known. The claimed invention is not merely varying a refresh rate of a display of a merged query result. Rather, the claims recite merging query results of multiple separately submitted search queries into a merged query, identifying one such search query associated with a query result including a piece of information a user indicated an interest in, and varying a refresh rate of a display of the merged query result based on the input signal. Such processes and products were not capable of instant and unquestionable demonstration as being well known prior to the priority date of the present application.

Therefore, Applicants respectfully challenge the rejection in accordance with MPEP 2144.03C. MPEP 2144.03C recites that “If applicant challenges a factual assertion as not properly officially noticed or not properly based upon common knowledge, the Examiner must support the findings with adequate evidence.” If the Examiner maintains the rejection in view of Official Notice, Applicants respectfully request that the Examiner support the rejection with adequate documentary evidence. If the Examiner is relying on personal

knowledge to support the finding of what is known in the art, Applicants request that the Examiner provide an affidavit or declaration setting forth specific factual statements and explanation to support the findings, as required by MPEP 2144.03C.

In view of the above, Applicants respectfully submit that claims 13, 14, 19, 20, 27, and 28 are patentably distinguishable over the cited reference. Accordingly, Applicants respectfully request that the Examiner reconsider the § 103 rejections and withdraw them.

In conclusion, Applicants submit that the claims as amended are patentable over the cited reference and requests that the application be allowed. The Examiner is invited to contact the undersigned by telephone in order to advance the prosecution of this case.

Respectfully Submitted,  
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